UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/963,871 | 09/25/2001 | Daniel Joseph Lee | 1617.EMCO.NP | 9181 |

26986 7590 12/08/2005

MORRISS O'BRYANT COMPAGNI, P.C.
136 SOUTH MAIN STREET
SUITE 700
SALT LAKE CITY, UT 84101

| EXAMINER | |
|---|---|
| KUIPER, ERIC J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2154 | |

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/963,871 | LEE ET AL. | |
| | Examiner | Art Unit | |
| | Eric Kuiper | 2154 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *9/25/2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☒ Claim(s) *1, 12,15-19, 22 and 29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. Claims 1-30 are presented for examination.

### *Claim Objections*

2. Claims 1, 15-19, 22 and 29 are objected to because of the following informalities: these claims all make reference to "a switch/router board". The use of the slash symbol between descriptive elements in the claims renders the scope and meaning of the claims unclear, as slashes could be construed to mean "and", "or" or both "and" and "or". The Examiner will consider the slash to have a meaning of "or" for the purposes of examination.

Appropriate correction is required.

3. Claim 12 is objected to because of the following informalities: line 7 of claim 12 states "instruction the Open IP Services Platform to implement..." which appears to be a typographical error in the use of the term "instruction" instead of the term "instructing".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 101*

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 11-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

6. As per claim 11, the step of "reducing the time required to configure the network topology" is not a new and useful process, machine, manufacture or composition of matter and therefore is not considered statutory subject matter.

7. As per claim 13, the step of "reducing the networking knowledge requirements of the administrator, to thereby facilitate rapid and easy deployment of the network topology" is not a new and useful process, machine, manufacture or composition of matter and therefore is not considered statutory subject matter.

8. As per claims 12 and 14, they are rejected based on their dependencies to claims 11 and 13, respectively.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 2, and 15-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Akerman et al. (US 2002/0165947, hereinafter Akerman).

11. As per claim 1, Akerman discloses a method for integrating the functions of at least two network services in an Open IP Services Platform (e.g. "control processor module") that provides access to a network (e.g. paragraphs [0010]-[0012], [0033]), said method comprising the steps of:

providing a single board computer (e.g. Fig. 9) running an open architecture Operating System (e.g. paragraph [0009], lines 8-11), at least two bus connectors coupled to the single board computer (e.g. Fig. 9, paragraph [0056]), and used for receiving cards that perform network functions, a switch or router board coupled to the single board computer, and a plurality of network ports coupled to the switch or router board (e.g. paragraphs [0012], [0051], [0056]; Fig. 6B, 9); and

configuring interconnections between the at least two bus connectors, the switch or router board, and the single board computer by utilizing configuration software that directs a plurality of switches to make physical interconnections within the Open IP Services Platform (e.g. Abstract, lines 12-16; paragraphs [0039], lines 1-13; paragraph [0056]).

12. As per claim 2, Akerman discloses the method as defined in claim 1 wherein the method further comprises the step of enabling the Open IP Services Platform to determine a desirable network topology within the Open IP Services Platform for the at least two network functions being performed (e.g. paragraphs [0075], [0078]).

13. As per claim 15, Akerman discloses a method for providing an Open IP Services Platform that is capable of performing various network functions according to the specific

network components that are disposed therein, and according to a network topology selected for those network components (e.g. paragraphs [0010]-[0012], [0033], [0075], [0078]), said method comprising the steps of:

providing a single board computer (e.g. Fig. 9) running an open architecture Operating System (e.g. paragraph [0009], lines 8-11), at least two bus connectors coupled to the single board computer, and used for receiving cards that perform network functions, a switch or router board coupled to the single board computer, and a plurality of network ports coupled to the switch or router board (e.g. paragraphs [0012], [0051], [0056]; Fig. 6B, 9);

coupling a first set of network devices to the at least two connector buses (e.g. paragraphs [0039], [0051], [0056], Fig. 6B, 9);

configuring interconnections between the first set of network devices, the switch or router board, and the single board computer to thereby define a first network function and a first network topology for the Open IP Services Platform (e.g. Abstract, lines 12-16; paragraph [0039], lines 1-13; paragraphs [0056], [0075], [0078]).

14. As per claim 16, Akerman discloses the method as defined in claim 15 wherein the method further comprises the steps of reconfiguring through configuration software the interconnections between the first set of network devices, the switch or router board, and the single board computer to thereby define a second network function and a second network topology for the Open IP Services Platform, without having to change the first set of network devices (e.g. paragraphs [0075], [0078], [0079]; Fig. 2, 4).

15. As per claim 17, Akerman discloses the method as defined in claim 16 wherein the method further comprises the steps of:

removing the first set of network devices from the Open IP Services Platform (e.g. paragraphs [0071], [0079]);

coupling a second set of network devices to the at least two connector buses (e.g. paragraphs [0034], [0035]; Fig. 2, 4);

configuring interconnections between the second set of network devices, the switch or router board, and the single board computer to thereby define a third network function and a third network topology for the Open IP Services Platform (e.g. paragraphs [0034], [0075], [0078], [0079]; Fig. 2, 4).

16. As per claim 18, Akerman discloses a method for integrating the functions of a plurality of network devices into a single Open IP Services Platform that provides access to a network, to thereby reduce space requirements and the number of wires used to interconnect network devices (e.g. paragraphs [0010]-[0012], [0033]), said method comprising the steps of:

providing a single board computer (e.g. Fig. 9) running an open architecture Operating System (e.g. paragraph [0009], lines 8-11), at least two bus connectors coupled to the single board computer, and used for receiving cards that perform network functions, a switch or router board coupled to the single board computer, and a plurality of network ports coupled to the switch or router board (e.g. paragraphs [0012], [0051], [0056]; Fig. 6B, 9);

coupling a network device to one of the at least two bus connectors (e.g. paragraphs [0039], [0051], [0056], Fig. 6B, 9);

configuring interconnections between the network device, the switch or router board, and the single board computer by utilizing configuration software that directs a plurality of switches to make physical interconnections within the Open IP Services Platform, thereby eliminating external wires normally used to interconnect the network device and the switch or router board (e.g. Abstract, lines 12-16; paragraph [0039], lines 1-13; paragraph [0056]).

17. As per claim 19, Akerman discloses a system including an Open Internet Protocol (IP) services platform for integrating the functions of at least two network services in a single unit that does not require external wires to couple the at least two network services together (e.g. paragraphs [0010]-[0012], [0033]), said system comprising:

a single board computer (SBC), including memory (e.g. paragraph [0056]; Fig. 9);

an open architecture Operating System (OS) stored in the memory (e.g. paragraph [0009], lines 8-11; paragraph [0079]);

at least two bus connectors for receiving cards that perform network functions, wherein the at least two bus connectors are coupled to the SBC (e.g. paragraph [0056]; Fig. 9);

a switch or router board coupled to the single board computer (e.g. paragraph [0012]);

a plurality of network ports, wherein the plurality of network ports are coupled on a first side to the switch or router board, and provide a connection to a network on a second side thereof (e.g. paragraphs [0051], [0056]; Fig. 6B, 9); and

configuration software for controlling interconnections between the at least two bus connectors, the switch or router board, and the SBC (e.g. paragraph [0039], lines 1-13).

18. As per claim 20, Akerman discloses the system as defined in claim 19 wherein the open architecture Operating System is selected from the group of Operating Systems comprised of FreeBSD and Linux (e.g. paragraphs [0009], [0016]).

19. As per claim 21, Akerman discloses the system as defined in claim 20 wherein the at least two bus connectors further comprise peripheral component interconnect (PCI) bus connectors (e.g. paragraph [0056]; Fig. 9).

***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

22. Claims 3-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akerman et al. (US 2002/0165947, hereinafter Akerman) in view of Sheard et al. (US 6,208,345, hereinafter Sheard).

23. As per claim 3, Akerman discloses the method as defined in claim 2 but fails to teach that the method further comprises the step of enabling an administrator to utilize the configuration software to configure individual ports of the Open IP Services Platform.

However, in a similar art, Sheard teaches software for managing and configuring network settings in which configuration and modification can be performed by the network administrator (e.g. Sheard, col. 12, lines 40-52).

It would have been obvious to one skilled in the art at the time the invention was made to combine Sheard with Akerman because of the benefits of giving the network administrator greater control over the network settings and configuration. When an administrator is allowed greater control over the network, it is possible to increase the efficiency and overall speed of the network by customizing it to the exact specifications that are needed, thereby eliminating all unnecessary features and options that could use valuable system resources. This is beneficial in any computer network.

24. As per claim 4, Akerman and Sheard teach the method as defined in claim 3, Akerman further teaches the method wherein the configuration software is able to configure the individual ports of the Open IP Services Platform by selecting a configuration scheme from the group of configuration schemes comprising the bandwidth usage, rule sets, trigger points, IP services being performed and protocol usage (e.g. Akerman, paragraph [0034], lines 18-31; paragraphs [0075], [0078]).

25. As per claim 5, Akerman and Sheard teach the method as defined in claim 4 wherein the configuration software enables on the fly configuration of the Open IP Services Platform, wherein the Open IP Services Platform is not rebooted in order to effect desired changes in interconnections (e.g. Sheard, "runtime deployment" col. 6, lines 20-47).

It would have been obvious to one skilled in the art at the time the invention was made to again combine Sheard with Akerman because of the benefits of allowing modifications to be made without requiring a system reboot. This can save a large amount of time when changing configurations, especially when being done on multiple machines. Dynamic changes to the configuration are beneficial since the users experience little to no downtime when the changes are made.

26. As per claim 6, Akerman and Sheard teach the method as defined in claim 5 wherein the method further comprises the step of enabling a plurality of different network devices to be coupled to the at least two bus connectors, wherein the plurality of different network devices are selected from the group of network devices comprising routers, switches, load balancers, bridges, firewalls, packet shapers and servers (e.g. Akerman, paragraph [0039]).

27. As per claim 7, Akerman and Sheard teach the method of claim 6 wherein the method further comprises the step of enabling network devices from any vendor (e.g. use of open architecture system) to be included in the Open IP Services Platform, wherein memory management prevents any one of the network devices from interfering with operation of any other network device (e.g. Akerman, "health and maintenance data" paragraphs [0010], [0037]).

28. As per claim 8, Akerman and Sheard teach the method as defined in claim 7 wherein the method further comprises the step of enabling any vendor of the network devices to provide a software module that is utilized by the configuration software to represent and control operation of a network device (e.g. Akerman, paragraph [0039]).

29. As per claim 9, Akerman and Sheard teach the method as defined in claim 8 wherein the method further comprises the step of providing the Operating System that includes all components of a complete version, thereby including all security and memory management features (e.g. Akerman, paragraph [0079]).

30. As per claim 10, Akerman and Sheard teach the method as defined in claim 9 wherein the method further comprises the step of modifying or making additions to the Operating System in order to enable a network device to operate within the Open IP Services Platform (e.g. Akerman, paragraph [0079]).

31. As per claim 11, Akerman and Sheard teach the method as defined in claim 10 wherein the method further comprises the step of reducing the time required to configure the network topology, wherein the configuration software provides a graphical user interface (e.g. Akerman, paragraph [0078]) that enables an administrator to drag and drop icons representing the network devices into the desired network topology (e.g. Sheard, col. 3, lines 19-44; col. 20, lines 3-15; Fig. 17-20).

It would have been obvious to one skilled in the art to once again combine Sheard with Akerman because of the benefits of creating a simple interface for configuring a network. A simple graphical interface including the drag and drop icons allows a network administrator to quickly and easily make changes to the network settings and configuration. This can save the administrator time and eliminate errors from inadvertently making changes to the wrong setting or configuration.

32. As per claim 12, Akerman and Sheard teach the method as defined in claim 11 wherein the method further comprises the steps of:

providing a plurality of pre-configured network topologies that are stored in memory (e.g. Akerman, paragraphs [0012], [0034], [0075], [0078]);

selecting of the pre-configured network topologies (e.g. Akerman, paragraphs [0012]. [0034], [0075], [0078]); and

instructing the Open IP Services Platform to implement the network topology defined in the pre-configured network topology utilizing network devices installed in the Open IP Services Platform (e.g. Akerman, paragraphs [0012], [0034], [0075], [0078]).

33. As per claim 13, Akerman and Sheard teach the method as defined in claim 11 wherein the method further comprises the step of reducing networking knowledge requirements of the administrator, to thereby facilitate rapid and easy deployment of the network topology (e.g. Akerman, paragraph [0078]; Sheard, col. 3, lines 19-44; col. 20, lines 3-15; Fig. 17-20).

It would have been obvious to one skilled in the art to combine Sheard with Akerman for similar reasons as stated above.

34. Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akerman et al. (US 2002/0165947, hereinafter Akerman) in view of So (US 6,170,049, hereinafter So).

35. As per claim 22, Akerman discloses the system as defined in claim 21, as stated above, wherein the switch or router board is further comprised of:

a PCI to PCI bus bridge (e.g. Akerman, paragraph [0056]; Fig. 5, 9);

at least one random access memory module (e.g. Akerman, paragraph [0056]; Fig. 5, 9);

a media switch for performing switch and router function (e.g. Akerman, paragraph [0056]; Fig. 5, 9).

Akerman fails to teach the switch or router board further comprising a PCI to PCMCIA bus bridge.

However, in a similar art, So teaches computer system that includes a PCI bus connected to a PCMCIA bus bridge (e.g. So, col. 6, lines 7-25; Fig. 28, 29).

It would have been obvious to one skilled in the art at the time the invention was made to combine So with Akerman because of the benefits of including PCMCIA support into a computer system. PCMCIA compatible components are widely used in computer systems for integrating additional hardware modules and upgrading existing hardware to enhance performance or features of the system. The inclusion of a PCI to PCMCIA bus bridge increases

the expansion capabilities of the system, which can lead to more efficient use of the system by increasing the compatibility with various hardware components and other systems.

36. As per claim 23, Akerman and So teach the system as defined in claim 22 wherein the plurality of network ports further comprises:

at least two gigabit ethernet ports (e.g. Akerman, Fig. 6B, 9);

at least twelve 10/100 ethernet ports (e.g. Akerman, Fig. 6B, 9);

at least two PCMCIA type 2 expansion ports (e.g. So, Fig. 28, 29; col. 6, lines 7-25).

It would have been obvious to one skilled in the art to again combine So with Akerman for the same reasons as stated above.

37. As per claim 24, Akerman and So teach the system as defined in claim 23 wherein the plurality of network ports further comprises at least one universal serial bus (USB) port (e.g. So, col. 9, lines 15-27; Fig. 1).

It would have been obvious to one skilled in the art to once again combine So with Akerman for similar reasons as stated above.

38. As per claim 25, Akerman and So teach the system as defined in claim 24 wherein the at least two PCI bus connectors are coupled to network card performing network functions, wherein the network functions are selected from the group of network functions comprising routers, switches, load balancers, bridges, firewalls, packet shapers and servers (e.g. Akerman, paragraph [0039]).

39. As per claim 26, Akerman and So teach the system as defined in claim 25 wherein the SBC further comprises a microprocessor that is selected from the group of microprocessors comprised of general purpose microprocessors and special purpose microprocessors (e.g. Akerman, paragraphs [0056], [0065]).

40. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akerman et al. (US 2002/0165947, hereinafter Akerman) and Akerman in view of Sheard et al. (US 6,208,345, hereinafter Sheard) as applied to claims 1-13 above, and further in view of Pandolfi (US 6,289,678, hereinafter Pandolfi).

41. As per claim 14, Akerman and Sheard teach the method as defined in claim 13 as stated above, but fail to teach that the method comprises the step of enabling operation of the Open IP Services Platform in harsh environments that would otherwise preclude operation of the Open IP Services Platform by providing localized cooling for specific temperature sensitive components.

However, in a similar art, Pandolfi teaches a device for cooling a hard drive in high temperature environments where a hard drive would otherwise fail (e.g. Pandolfi, col. 2, lines 9-57; col. 4, lines 11-37).

It would have been obvious to one skilled in the art at the time the invention was made to combine Pandolfi with Akerman and Sheard because of the benefits in adding a cooling system for electrical devices placed in high temperature environments. As Pandolfi states (col. 2, lines 9-57), the lubricating oil within the hard drive motor can leak and deposit onto the disk itself

causing permanent damage to the device. The use of a solid state heat pump, heat sink and fan to circulate the air inside of the hard drive housing can drastically decrease the operating temperature of the hard drive allowing it to function properly in a high temperature environment. This increases the reliability and durability of the system, which is always beneficial in a computer network.

42. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akerman et al. (US 2002/0165947, hereinafter Akerman) and Akerman in view of So (US 6,170,049, hereinafter So) as applied to claims 19-26 above, and further in view of Sheard et al. (US 6,208,345, hereinafter Sheard).

43. As per claim 27, Akerman and So teach the system as defined in claim 26, as stated above, but fail to teach that the configuration software further comprises a software utility that enables drag-and-drop configuration of network components, to thereby simplify configuration of network components within the Open IP Services Platform.

However, in a similar art, Sheard teaches a graphical interface which allows the user to view icons representing network hardware and software modules and the icons can be dragged and dropped to add, remove and configure the components as the user wishes (e.g. Sheard, col. 3, lines 19-44; col. 20, lines 3-15; Fig. 17-20).

It would have been obvious to one skilled in the art at the time the invention was made to combine Sheard with Akerman and So because of the benefits of creating a simple interface for configuring a network. A simple graphical interface including the drag and drop icons allows a

network administrator to quickly and easily make changes to the network settings and configuration. This can save the administrator time and eliminate errors from inadvertently making changes to the wrong setting or configuration. Saving time and increasing efficiency is a benefit for any computer network.

44. As per claim 28, Akerman, So and Sheard teach the system as defined in claim 27 wherein the configuration software utilizes icons that are representative of network components, wherein the icons are ActiveX modules that define the functions that are performed by the network components (e.g. Sheard, col. 3, lines 19-44; col. 17, lines 45-56; col. 20, lines 3-15).

It would have been obvious to one skilled in the art to again combine Sheard with Akerman and So because of the advantages of using ActiveX modules for the interface. ActiveX modules use the operating system to communicate messages and configuration data to other software and hardware components. ActiveX controls are able to directly modify a file, which is an advantage in a system for network configuration since the modifications to the configuration can be done directly through that module, without the need for additional steps. This can save time and increase the efficiency, which again, are benefits in any computer network.

45. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akerman et al. (US 2002/0165947, hereinafter Akerman), Akerman in view of So (US 6,170,049, hereinafter So) and Akerman in view of So and Sheard et al. (US 6,208,345, hereinafter Sheard), as applied to claims 19-28 above, and further in view of Bauman (US 6,046,979, hereinafter Bauman).

46. As per claim 29, Akerman, So and Sheard teach the system as defined in claim 28, as stated above, but fail to teach that the switch or router board is a level 4 network device that is capable of communicating with other Open IP Services Platforms at wire speed.

However, in a similar art, Bauman teaches a multi-port switch and router device that uses layer 4 application protocol information to perform switching functions at wire speed (e.g. Bauman, col. 4, lines 51-67).

It would have been obvious to one skilled in the art at the time the invention was made to combine Bauman with Akerman, So and Sheard because of the advantages of using a layer 4 switch communicating at wire speed. When switching and routing functions are not performed at wire speed, a bottleneck of incoming traffic occurs due to its inability to keep up with the communication. This can dramatically slow down all network traffic and the risk of dropping packets greatly increases. When a switch transmits data at wire speed, there is no delay and therefore a bottleneck of the other incoming packets will not occur. This is beneficial in any computer network system.

47. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akerman et al. (US 2002/0165947, hereinafter Akerman), Akerman in view of So (US 6,170,049, hereinafter So), Akerman in view of So and Sheard et al. (US 6,208,345, hereinafter Sheard) and Akerman in view of So, Sheard and Bauman (US 6,046,979, hereinafter Bauman) as applied to claims 19-29 above, and further in view of Pandolfi (US 6,289,678, hereinafter Pandolfi).

48. As per claim 30, Akerman, So, Sheard and Bauman teach the system as defined in claim 29, as stated above, but fail to teach that the system further comprises a solid state refrigeration unit, where the refrigeration unit is disposed directly on a case of a hard drive, thereby direction cooling efforts directly on the most temperature sensitive device with the Open IP Services Platform.

However, in a similar art, Pandolfi teaches an enclosure for a hard drive, which includes a solid state heat pump for cooling the hard drive in high temperature environments (e.g. Pandolfi, col. 2, lines 9-57; col. 4, lines 11-37).

It would have been obvious to one skilled in the art at the time the invention was made to combine Pandolfi with Akerman, So, Sheard and Bauman because of the benefits in adding a cooling system for electrical devices placed in high temperature environments. As Pandolfi states (col. 2, lines 9-57), the lubricating oil within the hard drive motor can leak and deposit onto the disk itself causing permanent damage to the device. The use of a solid state heat pump, heat sink and fan to circulate the air inside of the hard drive housing can drastically decrease the operating temperature of the hard drive allowing it to function properly in a high temperature environment. This increases the reliability and durability of the system, which is always beneficial in a computer network.

## *Conclusion*

49. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Scholl et al. (US 5,742,762) teach a network gateway providing management for web users with a unified, graphical interface;

Murphy et al. (US 6,229,809) teach a method for network configuration of tunneling systems without continually converting protocols;

Cochran et al. (US 6,311,230) teach a computer-controlled switch with a PCI bus for interconnecting a plurality of port cards;

Granau et al. (US 5,848,252) teach a controller for exchanging information between PCI busses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Kuiper whose telephone number is (571) 272-0953. The examiner can normally be reached on Monday through Friday, 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric Kuiper

1 December 2005

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100